1. Floor-Ceiling Assembly - The 1 or 2 hr fire-resistive solid or poured-lumber floor-ceiling assembly shall be constructed of the materials and in the manner specified in the individual LBD2 Series Floor-Ceiling Designs in the US Fire Protection Directory. The F Rating of the firestop system is equal to the rating of the floor-ceiling assembly. The general construction features of the floor-ceiling assembly are summarized below:

   A. Floor System - Lumber or plywood subfloor with finishing of 2 hr. fire-resistive or floor "tapping material" as specified in the individual floor-ceiling design. Diameter of opening to be max 1 in. larger than diam of pipe. As an alternate, the opening may be square-cut with max dimension 1 in. greater than the diam of the pipe.

   B. Wood Joist - Nom 10 in. deep (or deeper) Lumber, steel or combination lumen and steel joists, trusses or Structural Wood Members with bridging as required and with endsFirestoped.

   C. Furring Channels - (Not Shown) (As required) Resistive pre-formed steel framing (if furnished in accordance with the manner specified in the individual LBD2 Series Design in the US Fire Protection Directory.

   D. Gypsum Board - Thickness, type, number of layers and finishes shall be as specified in the individual floor-ceiling design. Diameter of opening to be max 1 in. larger than diam of pipe.

   E. Tile Plate - Nom 2 by 4 in. or para 2 by 4 in. per 2 by 4 in. lumen plates, highly butted. Diam of opening if to be max 1 in. larger than diam of pipe. As an alternate, the opening may be square-cut with max dimension 1 in. greater than the diam of the pipe. Plate may be discontinuous opening, terminating at two opposite edges of opening. Max length of discontinuity to be 1 in. greater than diam of through penetration.

   F. Top Plate - The double top plate shall consist of two nom 2 by 4 in., 2 by 6 in. or two sets of para 2 by 4 in. lumen plates, highly butted. Diam of opening is to be max 1 in. larger than diam of pipe. As an alternate, the opening may be square-cut with max dimension 1 in. greater than the diam of the pipe. Plate may be discontinuous opening, terminating at two opposite edges of opening. Max length of discontinuity to be 1 in. greater than diam of through penetration.

2. Wood Joist - The through penetration (Item 1) shall be routed through a 1 or 2 hr. rated single, double or staggered wood floor-ceiling assembly and shall be constructed of the materials and in the manner specified in the individual LBD2 Series Design in the US Fire Protection Directory, and include the following construction features:

   A. Studs - Nom 2 by 4 in. or 2 by 6 in. or double nom 2 by 4 in. lumber studs. Nom 2 by 4 in. studs are allowed for through penetrations (Item 3) not exceeding nom 3 in. diam.

   B. Through Penetrations - One metal pipe, conduit or tubing to be installed within the firestop system. Pipe, conduit or tubing to be rigidly supported on both sides of floor assembly. The annular space within the firestop system shall be min 0 in. (point contact) to max 1 in. The following pipes and sizes of metal pipe or conduit may be used:

      A. Steel Pipe - Nom 4 in. diam (or smaller) Schedule 10 (or heavier) steel pipe.

      B. Iron Pipe - Nom 4 in. diam (or smaller) Schedule 10 (or heavier) steel pipe.

      C. Conduit - Nom 4 in. diam (or smaller) Schedule 10 (or heavier) conduit.

      D. Copper Tubing - Nom 4 in. diam (or smaller) Schedule 10 (or heavier) copper tubing.

      E. Copper Pipe - Nom 4 in. diam (or smaller) Schedule 10 (or heavier) copper pipe.

   F. Firestop (Clear Codes) - Reinforced - Min 3/4 in. Thickness of 1 material applied within the annulus, flush with the top surface of the floor or the roof plate. A generous bed of fire retardant also applied within the annulus of the top plate, with bottom surface of lower top plate.

Note: CPVC Pipe Compatibility

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CITY OF RALEIGH FIRE DEPARTMENT
FIRE PROTECTION DIVISION
310 WEST MARTIN ST. RALEIGH, NC 27602

DESCRIPTION: FIRE STOP DETAIL

REVISIONS: 5-1-2017
DATE: 5/1/06
DRAWING NO. FP-11